

# The world's biggest chocolate-maker says we're running out of chocolate

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By [Roberto A. Ferdman](#) November 15, 2014 Follow [@robferdman](#)



The chocolate deficit is about to go way up. (AP Photo/Dan Goodman, File)

There's no easy way to say this: You're eating too much chocolate, all of you. And it's getting so out of hand that the world could be headed towards a potentially disastrous (if you love chocolate) scenario if it doesn't stop.

Those are, roughly speaking, the words of two huge chocolate makers, Mars, Inc. and Barry Callebaut. And there's some data to back them up.

Chocolate deficits, whereby farmers produce less cocoa than the world eats, are becoming the norm. Already, we are in the midst of what could be the longest streak of consecutive chocolate deficits [in more than 50 years](#). It also looks like deficits aren't just carrying over from year-to-year—the industry expects them to grow. Last year, the world ate roughly 70,000 metric tons more cocoa than it produced. By 2020, the two chocolate-makers warn that that number could swell to 1 million metric tons, a more than 14-fold increase; by 2030, they think the deficit could reach 2 million metric tons.

The problem is, for one, a supply issue. Dry weather in West Africa (specifically in the Ivory Coast and Ghana, where [more than 70 percent](#) of the world's cocoa is produced) has greatly decreased production in the region. A nasty fungal disease known as frosty pod hasn't helped either. The International Cocoa Organization estimates it has wiped out [between 30 percent and 40 percent](#) of global cocoa production. Because of all this, cocoa farming has proven a particularly tough business, and many farmers have shifted to more profitable crops, like corn, as a result.

Then there's the world's insatiable appetite for chocolate. [China's growing love](#) for the stuff is of particular concern. The Chinese are buying more and more chocolate each year. Still, they only consume per capita about 5 percent of what the average Western European eats. There's also the [rising popularity of dark chocolate](#), which

contains a good deal more cocoa by volume than traditional

chocolate bars (the average chocolate bar contains about 10 percent, while dark chocolate often contains upwards of 70 percent).

For these reasons, cocoa prices have climbed by more than 60 percent since 2012, when people started eating more chocolate than the world could produce. And chocolate makers have, in turn, been forced to adjust by raising the price of their bars. Hershey's [was the first](#), but others have followed suit.

Efforts to counter the growing imbalance between the amount of chocolate the world wants and the amount farmers can produce has inspired a bit of much needed innovation.

Specifically, an agricultural research group in Central

Africa is developing trees that can produce up to seven times the amount of beans traditional cocoa trees can. The uptick in efficiency, however, might be compromising taste, [says Bloomberg's Mark Schatzker](#). He likens the trade-off to other mass-produced commodities.

Efforts are under way to make chocolate cheap and abundant -- in the process inadvertently rendering it as tasteless as today's store-bought tomatoes, yet another food, along with chicken and strawberries, that went from flavorful to forgettable on the road to plenitude.

It's unclear anyone will mind a milder flavor if it keeps prices down. And the industry certainly won't mind, so long as it keeps the potential for a gargantuan shortage at bay.

# Here's How We're Going to Solve the Global Chocolate Shortage

By *Megan Giller*



Good chocolate takes work.

Photo by Andreas Kraus/Shutterstock

Witch's broom. Frosty pod. Horsehair blight. No, those aren't medieval hexes—they're modern diseases that plague cacao trees, creating a **worldwide chocolate shortage** that experts say will only get worse.

But this isn't the first time we've had this problem. In the 19<sup>th</sup> century, Trinidad and Tobago was among the world's top five producers of cacao until disease decimated the country's cacao and its economy. That's why Trinidad created the **Cocoa Research Centre**, which, along with the accompanying International Cocoa Genebank, houses 2,400 types of cacao. Now the center may just solve our current cacao conundrum and make chocolate taste better while doing so.

The center uses maps of the cacao genome to identify markers for different traits, upping the **value of seedbanks** in the 21<sup>st</sup> century and changing the way species advance.\* Though plants (think **corn**) have co-evolved with humans for centuries, they've never done so at such a rapid pace. Through genomics, the CRC can actively simulate evolution on a computer to virtually create new strands of cacao that are bigger and better, all without waiting for plants to grow. That knowledge informs breeding programs at farms around the world.

The CRC, which has been around in some incarnation since the 1930s, uses its 2,400 varieties of cacao (which represent 80 percent of the cacao in the world) to research and eliminate diseases. For example, when witches' broom devastated the industry in Brazil **in the 1980s** wiping out entire crops, genetic material from Trinidad saved the day.\*

The center continues to research and knock out diseases today, and its findings help the industry move forward. In fact, Professor Pathmanathan Umaharan said, "Most technologies practiced around the world were developed at the research center." Marañon Chocolate's I Pearson (whose cacao Anthony Bourdain and Eric Ripert used to make their infamous **Goat & Evil bar**) said, "In the mass market we're facing a shortage, but in fine chocolate we're facing extinction. For both reasons, the center is critical."

What does he mean? Essentially, it's not all about disease. For years the chocolate industry has been trying to solve the old quantity-vs.-quality riddle. The best-tasting cacao beans, called "fine flavor cacao," come from finicky trees that are prone to up and die. And even when they survive, they yield fewer beans. On the other hand, the heartier trees produce big beans and plenty of them. But the cacao, well, it doesn't taste so great. However, the bulk-chocolate industry (ahem, Hershey's) has "solved" this problem by overroasting the beans, blending different varieties and then adding a boatload of sugar and vanilla.

The most infamous tree in this story is called CCN-51, which yields almost **four times** as much as the industry average. Chocolate experts say the taste is, for lack of a better word, disgusting. The center's research fellow and food technologist Darin Sukha said, "It has very dirty and undesirable flavor attributes that are different from what you find in fine-flavor cocoa and even bulk cocoa." Nevertheless, big producers like Mars and Cadbury **use it in their products**.

30 types of Trinitario cacao that are already resistant to witch's broom and black pod and compared their desirable flavor attributes with "traits of economic importance." Two of the 30 combined high yield, butterfat, bean weight, antioxidants and epicatechins with "floral flavor attributes and aroma volatiles." In other words, a hearty and great-tasting cacao is not as hard to come by as you might think: It already exists. In reality, though, the industry wouldn't switch to these two varieties but instead breed these types with others to create new strains of cacao that suit different purposes.

Another project, headed up by Pearson, is doing something similar. The Heirloom Cacao Preservation Initiative (which both Pearson and Sukha are part of) has identified seven types of exquisite-tasting heirloom cacao. Farmers are now clamoring to grow those varieties, because they can charge higher prices for them within the fine-flavor industry. HCP takes the center's findings one step further, "into the field," said Pearson.

But as Sukha said, "There's no one magic tree." Going along with that sentiment, the center has culled cacao from its 2,400 trees and sent the blend to bean-to-bar maker **Woodblock Chocolate**, in Portland, to make a collaboration bar. With only 65 pounds of the cocoa in existence, owner Charley Wheelock will sell the bars for \$100, with all proceeds going to the center.\*

The bar's genetic diversity nods at the value of genebanks: In addition to preserving **biodiversity**, their technology facilitates evolution. Will we ever reconstruct the hundreds of now-extinct species of Theobroma cacao from the Mesoamerican era? Probably not. But we might create a few that are even better—and longer lasting.

*Buy the bar from **Woodblock Chocolate** this spring and/or support the center by **sponsoring a tree**.*

*\*Correction, Jan. 23, 2015: This post originally misspelled Charley Wheelock's first name.*

*\*Correction, Jan. 25, 2015: This post originally misspelled Tobago and misstated that the Cocoa Research Centre has mapped the cacao genome. It has not; Mars and **CIRAD** have mapped two cacao genomes. The post also misstated that material from the International Cocoa Genebank helped the cacao industry recover from witch's broom in the 1980s. It was genetic material bred by Trinidad's Ministry of Agriculture that helped the cacao industry*

***Future Tense** is a partnership of **Slate**, **New America**, and **Arizona State University**.*

Megan Giller currently runs the Zagat blog in Austin, Texas. Also find her writing in places like Gigaom, *Vice*, *Texas Monthly*, and Food Republic.

# British 'chocolate greenhouse' saving the world's cocoa



By **Alfons Luna**  
12 hours ago



London (AFP) - Chocolate lovers take heart: a steamy greenhouse near London is helping to ensure that cocoa crops globally remain disease-free and bountiful to cope with the growing appetite for sweet treats.

On a winter morning, the temperature is a chilly eight degrees Celsius but inside the International Cocoa Quarantine Centre (ICQC), which simulates tropical conditions, the air is a balmy 23 degrees.

"Cocoa plants are generally quite difficult plants to grow," said Heather Lake, a technician at the newly-revamped centre, which is funded half by the British chocolate industry and half by the US government.

"They don't like too much sunlight, they don't like too much shade. It's quite difficult to get the climate correct," she told AFP at the facility, which is hosted by the University of Reading.

Situated in the village of Arborfield, west of London, the ICQC boasts around 1,000 square metres (10,760 square feet) of greenhouse space and 400 cocoa plant varieties.

The centre's aim is to reduce the amount of disease affecting cocoa plants by quarantining them before sharing them with different countries to produce new, more resistant varieties.

The plants are often collected in the wild on expeditions to the tropics on which researchers collect cuttings or seeds from disease-free samples.

At a time when changing tastes in emerging economies like China and India are fuelling global demand for chocolate, the centre acts as a vital resource for producer countries when pests or droughts strike crops.



Inside the International Cocoa Quarantine Centre, the air is a balmy 23 degrees (AFP Photo/Justin Ta ...

"That's where we come into play," said Andrew Daymond, manager of the ICQC, which was set up 30 years ago. "We are the main hub for international movements of cocoa plants."

- Keeping chocolate affordable -

Cocoa originates from South America but west Africa now dominates production, accounting for 73 percent of global output, according to the International Cocoa Organization.

Such a heavy concentration of production in one region -- Ivory Coast and Ghana alone represent 60 percent -- makes it vulnerable to shocks.

Prices leapt to almost \$3,400 (3,000 euros) a tonne in New York in September amid fears that the Ebola crisis in west Africa could affect cocoa supplies.

Both Ivory Coast and Ghana have, however, so far been spared by the outbreak.



A horticultural technician pollinates buds from flowers on a cocoa plant at the International Cocoa ...

The three countries worst hit by Ebola -- Sierra Leone, Guinea and Liberia -- represent just 0.7 percent of world cocoa output and saw their yields plummet.

Cocoa prices later fell back again but still rose 15 percent overall during 2014.

There is also the potential threat to the industry from plant diseases, which in west Africa can mean up to 30 percent of the annual harvest is lost.

"In each cocoa-growing country, they face particular challenges to do with pest and diseases, low yield potential of planted materials, extreme weather events," Daymond said.

"The basic objective of the project is to allow safe movement of cocoa plants from one part of the world to another."



Horticultural technician Heather Lake checks cocoa plant leaves for pests at the International Cocoa ...

In Britain, which has no endemic pests or diseases affecting cocoa, the centre can grow resistant varieties before dispatching them around the world, though few people would recognise these as cocoa trees.

"When we do an export, we send the small branches off a tree," Lake said. "We then remove all the leaves and we just send a stick."

Daymond explained that producer countries can then "establish a plant that is genetically identical to the plant that they received the cutting from".

The centre also researches the effects of climate change on cocoa crops and is looking at developing new varieties that would be more resistant to droughts or increased carbon dioxide levels.

All of which could help to make a box of chocolates that little bit more affordable.

# Dearth by Chocolate



**Claim:** The world will run out of chocolate by 2020.

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 **MOSTLY FALSE**

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**Example:** *[Collected via e-mail, November 2014]*

Have been reading articles that soon the world may run out of chocolate.  
According to the Mars chocolate company, there will be a chocolate shortage.

**Origins:** On 15 November 2014, the *Washington Post* published an article that caused widespread lamentation on social media. According to that publication, a worldwide chocolate shortage could be part of a dystopian future as soon as the year 2020.

Naturally, folks began discussing and sharing news of the impending worldwide chocolate shortage. The idea of a world without chocolate certainly sounds unpalatable, but is there a real risk behind the alarm over the planet's chocolate supplies?

As it turns out, the *Washington Post* didn't precisely say 2020 is the death knell for chocolate as we know it. The article in question addressed chocolate *deficits*, a market condition wherein demand outstrips supply. Historically, such circumstances don't lead to a complete dearth of a product or foodstuff; rather, scarcity simply tends to drive prices skyward and reduce consumption of the newly-scarce commodity:



Chocolate deficits, whereby farmers produce less cocoa than the world eats, are becoming the norm. Already, we are in the midst of what could be the longest streak of consecutive chocolate deficits in more than 50 years. It also looks like deficits aren't just carrying over from year-to-year — the industry expects them to grow. Last year, the world ate roughly 70,000 metric tons more cocoa than it produced. By 2020, the two chocolate-makers warn that that number could swell to 1 million metric tons, a more than 14-fold increase; by 2030, they think the deficit could reach 2 million metric tons.

The circulating article states chocolate deficits have been the norm for 50 years (and yet Halloween still hasn't ever been canceled). The comments to which the *Post* refers but doesn't quote have more to do with market fluctuations and higher cocoa prices than a specific looming absence of chocolate from the global supply chain overall:

The Switzerland-based Barry Callebaut Group has joined a host of industry experts in expressing concerns about "a potential cocoa shortage by 2020", which has contributed to cocoa prices rising a staggering 25 per cent in the past year.

Barry Callebaut revealed that it sold more than 1.7 million tonnes of chocolate in 2013/14 — a year-on-year increase of more than 11.8 per cent— and said in its annual report that it "expects to continue to outperform the global chocolate market".

Fiona Dawson, the then-UK president of Mars chocolate, warned in 2012 that the global cocoa sector "may suffer a 1 million tonne shortage by 2020 because of the increasing economic and environmental pressures on cocoa farms", adding: "It's just not sustainable."

Remarks made by Dawson (who no longer heads up Mars in the UK) were reported two years prior to the 2014 rumors about "chocolate shortages." Articles circulating on social media cite 2013 chocolate market trend reports; but in those, much of the focus was on increased consumption in regions like China and their impact on the global chocolate supply:

China is a "huge untapped market" that signals more potential for cocoa-supply shortages, said Claudio Oliveira, the head of trading at Castlestone Management LLC in New York.

Farmers in West Africa, which accounts for about 70 percent of world output, are struggling to boost production as aging trees curb yield potential, said Francesco Gibbi, a project manager at the Common Fund for Commodities, set up by the United Nations.

Ultimately, it's true that demand for chocolate is currently outstripping supply, resulting in a market deficit. Growing conditions and climate fluctuations could affect future cocoa crop yields in Africa, and may even affect chocolate prices in coming years.

However, the "chocolate shortage" predicted by 2020 seems to be a bit overhyped, as it's quite likely chocolate will still be widely available for purchase even if current market conditions continue or intensify. Furthermore, many of the chocolate industry executives who have commented on the potential for chocolate shortages did so years ago; and they spoke more to increased costs and demand than an actual extinction of cocoa.

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## Sources:

Almeida, Isis. "Barry Callebaut Says Africa Cocoa Deliveries Cut Global Shortage."  
*Bloomberg*. 15 January 2014

Ferdman, Roberto A. "The World's Biggest Chocolate-Maker Says We're Running Out of Chocolate."  
*Washington Post*. 15 November 2014

Javier, Luzi Ann et al. "Chocolate Eaters Drive Record Cocoa-Output Deficit: Commodities."  
*Bloomberg*. 17 December 2014

Withnall, Adam.  
"World's Largest Chocolate Manufacturer Adds Voice to Warnings  
of 'Potential Cocoa Shortage By 2020.'"  
*The Independent*. 17 November 2014.